



Attorney's Docket No. 411-041US1 / ISURF #02842

JC03 Rec'd PCT/PTO 20 APR 2005

#4

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Walter H. Hsu et al.
Serial No. : 10/509,926
Filed : October 1, 2004
Title : MYCOPLASMA POLYPEPTIDES

Art Unit : Unknown
Examiner : Unknown

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL


The following correspondence relating to this application is enclosed for filing:

1. Information Disclosure Statement (1 page);
2. Form PTO-1449 (5 pages);
3. Copies of Cited References (78 references); and
4. A Return Postcard.

Please date stamp and return the enclosed postcard. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: April 18, 2005

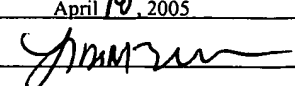

J. Patrick Finn III, Ph.D.
Reg. No. 44,109

Fish & Richardson P.C., P.A.
60 South Sixth Street
Suite 3300
Minneapolis, MN 55402
(612) 335-5070 telephone
(612) 288-9696 facsimile

60288687.doc

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

April 18, 2005
Date of Deposit
Signature 
Lisa M. Becker
Typed or Printed Name of Person Signing Certificate



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Walter H. Hsu et al.

Art Unit : Unknown

Serial No. : 10/509,926

Examiner : Unknown

Filed : October 1, 2004

Title : MYCOPLASMA POLYPEPTIDES

MAIL STOP AMENDMENT

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

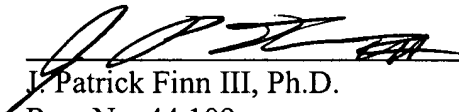
INFORMATION DISCLOSURE STATEMENT

Applicants request consideration of the references listed on the attached PTO-1449 form. Under 37 C.F.R. § 1.98 (a)(2)(ii), only copies of foreign patent documents and/or non-patent literature are enclosed. Copies of any listed U.S. patents or U.S. patent application publications can be provided upon request.

This statement is being filed before the receipt of a first Office Action on the merits. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: April 18, 2005

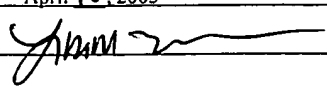

J. Patrick Finn III, Ph.D.
Reg. No. 44,109

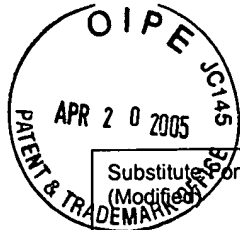
Fish & Richardson P.C., P.A.
60 South Sixth Street
Suite 3300
Minneapolis, MN 55402
Telephone: (612) 335-5070
Facsimile: (612) 288-9696

60285739.doc

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

April 18, 2005
Date of Deposit
Signature 
Lisa M. Becker
Typed or Printed Name of Person Signing Certificate



Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 08411-041US1	Application No. 10/509,926
Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))		Applicant Walter H. Hsu et al.	
		Filing Date October 1, 2004	Group Art Unit

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1	4,036,945	07/19/77	Haber			
	2	4,331,647	05/25/82	Goldenberg			

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	3	WO 95/09870	04/13/95	PCT				

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	4	Adams and Bumler, "Molecular Pathogenesis of Salmonella Typhimurium Induced Diarrhea," http://www.tard.state.tx.us/index.php?mode=Listing&rl_id=362 printed from internet on 4/1/05, 5 pages
	5	Asai et al., "Detection of Interleukin-6 and Prostaglandin E ₂ in bronchoalveolar lavage fluids of pigs experimentally infected with <i>Mycoplasma hyopneumoniae</i> ," <i>Vet. Immunol. Immunopathol.</i> , 1994, 44:97-102
	6	Asai et al., "Increased levels of tumor necrosis factor and interleukin 1 in bronchoalveolar lavage fluids from pigs infected with <i>Mycoplasma hyopneumoniae</i> ," <i>Vet. Immunol. Immunopathol.</i> , 1993, 38:253-260
	7	Baldwin et al., "Elevation of Intracellular Free Calcium Levels in HEp-2 Cells Infected with Enteropathogenic <i>Escherichia coli</i> ," <i>Infect. Immun.</i> , 1991, 59:1599-1604
	8	Baines and Thorpe, "Purification of Immunoglobulin G (IgG)," <i>Meth. Mol. Biol.</i> , 1992, 10:79-104
	9	Bendjennat et al., "Role of <i>Mycoplasma penetrans</i> Endonuclease P40 as a Potential Pathogenic Determinant," <i>Infect. Immun.</i> , 1999, 67(9):4456-4462
	10	Bleasdale and Fisher, "Use of U-73122 as an Inhibitor of Phospholipase C-Dependent Processes," <i>Neuroprotocols</i> , 1993, 3:125-133
	11	Caruso and Ross, "Effects of <i>Mycoplasma hyopneumoniae</i> and <i>Actinobacillus (Haemophilus) pleuropneumoniae</i> infections on alveolar macrophage functions in swine," <i>Am. J. Vet. Res.</i> , 1990, 51(2):227-231
	12	Coligan et al. (eds.), <i>Current Protocols in Immunology</i> , Sections 2.4.1, 2.5.1-2.6.7, 2.7.1-2.7.12, 2.8.1-2.8.10, 2.9.1-2.9.3, and 2.10.1-2.10.4, 1998, Vol. 1, John Wiley & Sons, Inc.
	13	D'Andrea and Vittur, "Ca ²⁺ Oscillations and Intercellular Ca ²⁺ Waves in ATP-Stimulated Articular Chondrocytes," <i>J. Bone Miner. Res.</i> , 1996, 11:946-954
	14	Danko et al., "Inhibitors of Ca ²⁺ release from the isolated sarcoplasmic reticulum. II. The effects of dantrolene on Ca ²⁺ release induced by caffeine, Ca ²⁺ and depolarization," <i>Biochim Biophys. Acta</i> , 1985, 816:18-24
	15	DeBey and Ross, "Ciliostasis and Loss of Cilia Induced by <i>Mycoplasma hyopneumoniae</i> in Porcine Tracheal Organ Cultures," <i>Infect. Immun.</i> , 1994, 62(12):5312-5318

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 08411-041US1	Application No. 10/509,926
Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))		Applicant Walter H. Hsu et al.	
		Filing Date October 1, 2004	Group Art Unit

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	16	DeBey et al., "Enhancement of the increase in intracellular calcium concentration in stimulated neutrophils by <i>Mycoplasma hyopneumoniae</i> ," <u>Vet. Res. Commun.</u> , 1993, 17:249-257
	17	DeBey et al., "Histochemical and morphologic changes of porcine airway epithelial cells in response to infection with <i>Mycoplasma hyopneumoniae</i> ," <u>Am. J. Vet. Res.</u> , 1992, 53(9):1705-1710
	18	Denning et al., " <i>Pseudomonas</i> pyocyanine alters calcium signaling in human airway epithelial cells," <u>Am. J. Physiol.</u> , 1998, 274:L893-L900
	19	Edelman and Wheelock, "Specific Role of Each Human Leukocyte Type in Viral Infections," <u>Meth. Enzymol.</u> , 1967, 1(6):1139-1149
	20	Evans and Sanderson, "Intracellular calcium oscillations induced by ATP in airway epithelial cells," <u>Am. J. Physiol.</u> , 1999, 277:L30-L41
	21	Fiers et al., "More than one way to die: apoptosis, necrosis and reactive oxygen damage," <u>Oncogene</u> , 1999, 18:7719-7730
	22	Freundt and Edward, "Classification and Taxonomy", <u>The Mycoplasmas</u> , 1979, Barile and Razin (eds.), Academic Press, New York, NY, p. 1-42
	23	Friis, "Some Recommendations Concerning Primary Isolation of <i>Mycoplasma suis</i> pneumoniae and <i>Mycoplasma flocculare</i> ," <u>Nord. Vet.-Med.</u> , 1975, 27:337-339
	24	Gewirtz et al., " <i>Salmonella typhimurium</i> induces epithelial IL-8 expression via Ca^{2+} -mediated activation of the NF- κ B pathway," <u>J. Clin. Invest.</u> , 2000, 105(1):79-92
	25	Gong et al., "Arginine Deiminase Inhibits Cell Proliferation by Arresting Cell Cycle and Inducing Apoptosis," <u>Biochem. Biophys. Res. Commun.</u> , 1999, 261:10-14
	26	Green and Manson, "Production of Polyclonal Antisera," <u>Meth. Mol. Biol.: Immunochemical Protocols</u> , 1992, 10:1-5
	27	Gryniewicz et al., "A New Generation of Ca^{2+} Indicators with Greatly Improved Fluorescence Properties," <u>J. Biol. Chem.</u> , 1985, 260(6):3440-3450
	28	Gupta and Pushkala, "Importance of the role of calcium in programmed cell death: a review," <u>Cytobios</u> , 1999, 99:83-95
	29	Heine and Wicher, " Ca^{2+} resting current and Ca^{2+} -induced Ca^{2+} release in insect neurosecretory neurons," <u>NeuroReport</u> , 1998, 9:3309-3314
	30	Higashijima et al., "Regulation of G_i and G_o by Mastoparan, Related Amphiphilic Peptides, and Hydrophobic Amines. Mechanism and structural determinants of activity," <u>J. Biol. Chem.</u> , 1990, 265(24):14176-14186
	31	Hsu and Minion, "Molecular analysis of the P97 cilium adhesin operon of <i>Mycoplasma hyopneumoniae</i> ," <u>Gene</u> , 1998, 214:13-23
	32	Hsu and Minion, "Identification of the Cilium Binding Epitope of the <i>Mycoplasma hyopneumoniae</i> P97 Adhesin," <u>Infect. Immun.</u> , 1998, 66(10):4762-4766
	33	Hsu et al., "Defective Fas Ligand-Mediated Apoptosis Predisposes to Development of a Chronic Erosive Arthritis Subsequent to <i>Mycoplasma pulmonis</i> Infection," <u>Arthritis Rheum.</u> , 2001, 44(9):2146-2159
	34	Hsu et al., "Cloning and Functional Analysis of the P97 Swine Cilium Adhesin Gene of <i>Mycoplasma hyopneumoniae</i> ," <u>J. Bacteriol.</u> , 1997, 179(4):1317-1323
	35	Hsuan et al., " <i>Pasteurella haemolytica</i> A1-Derived Leukotoxin and Endotoxin Induce Intracellular Calcium Elevation in Bovine Alveolar Macrophages by Different Signaling Pathways," <u>Infect. Immun.</u> , 1998, 66(6):2836-2844

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 08411-041US1	Application No. 10/509,926
Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))		Applicant Walter H. Hsu et al.	
		Filing Date October 1, 2004	Group Art Unit

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	36	Ismaili et al., "Signal Transduction Responses following Adhesion of Verocytotoxin-Producing <i>Escherichia coli</i> ," <u>Infect. Immun.</u> , 1995, 63(9):3316-3326
	37	Källstrom et al., "Cell Signaling by the Type IV Pili of Pathogenic <i>Neisseria</i> ," <u>J. Biol. Chem.</u> , 1998, 273(34):21777-21782
	38	Köhler and Milstein, "Continuous cultures of fused cells secreting antibody of predefined specificity," <u>Nature</u> , 1975, 256:495-497
	39	Kornegreen et al., "Extracellular ATP directly gates a cation-selective channel in rabbit airway ciliated epithelial cells," <u>J. Physiol.</u> , 1998, 508.3:703-720
	40	Lee et al., "Apoptosis and signal transduction: clues to a molecular mechanism," <u>Curr. Opin. Cell Biol.</u> , 1993, 5:286-291
	41	Mantell et al., "Hyperoxia-induced Cell Death in the Lung--the Correlation of Apoptosis, Necrosis, and Inflammation," <u>Ann. N.Y. Acad. Sci.</u> , 1999, 887:171-180
	42	Marchese et al., "Cloning of G protein-coupled receptor genes," (Chapter 1), <u>Identification and Expression of G Protein-Coupled Receptors</u> , 1998, Lynch (ed.), Wiley-Liss, NY, pp. 1-26
	43	Mebus and Underdahl, "Scanning Electron Microscopy of Trachea and Bronchi from Gnotobiotic Pigs Inoculated with <i>Mycoplasma hyopneumoniae</i> ," <u>Am. J. Vet. Res.</u> , 1977, 38(8):1249-1254
	44	Messier and Ross, "Interactions of <i>Mycoplasma hyopneumoniae</i> membranes with porcine lymphocytes," <u>Am. J. Vet. Res.</u> , 1991, 52(9):1497-1502
	45	Minion et al., "R1 Region of P97 Mediates Adherence of <i>Mycoplasma hyopneumoniae</i> to Swine Cilia," <u>Infect. Immun.</u> , 2000, 68(5):3056-3060
	46	Nathanson et al., "Characterization of cytosolic Ca^{2+} signaling in rat bile duct epithelia," <u>Am. J. Physiol.</u> , 1996, 271:G86-G96
	47	Nisonoff et al., "Separation of Univalent Fragments from the Bivalent Rabbit Antibody Molecule by Reduction of Disulfide Bonds," <u>Arch. Biochem. Biophys.</u> , 1960, 89:230-244
	48	Oshiro et al., "Protease-activated receptor-2-mediated Ca^{2+} signaling in guinea pig tracheal epithelial cells," <u>Life Sci.</u> , 2002, 71:547-558
	49	Pace et al., "Signal Transduction and Invasion of Epithelial Cells by <i>S. typhimurium</i> ," <u>Cell</u> , 1993, 72:505-514
	50	Paddenberg et al., "Mycoplasma nucleases able to induce internucleosomal DNA degradation in cultured cells possess many characteristics of eukaryotic apoptotic nucleases," <u>Cell Death Differ.</u> , 1998, 5:517-528
	51	Park et al., " <i>Mycoplasma hyopneumoniae</i> Increases Intracellular Calcium Release in Porcine Ciliated Tracheal Cells," <u>Infect. Immun.</u> , 2002, 70(5):2502-2506
	52	Pollack, "Enzyme analysis," (Chapter 10), <u>Meth. Mol. Biol.: Mycoplasma Protocols</u> , Miles & Nicholas (eds.), Humana Press, Totowa, NJ, 104:79-93
	53	Porter, "The Hydrolysis of Rabbit γ -Globulin and Antibodies with Crystalline Papain," <u>Biochem. J.</u> , 1959, 73:119-126
	54	Rawadi et al., "Effects of <i>Mycoplasma fermentans</i> on the Myelomonocytic Lineage," <u>J. Immunol.</u> , 1996, 156:670-678
	55	Razin and Jacobs, "Mycoplasma adhesion," <u>J. Gen. Microbiol.</u> , 1992, 138:407-422
	56	Razin, "Mycoplasma Membranes as Models in Membrane Research," (Chapter 1), <u>Subcellular Biochemistry: Mycoplasma Cell Membranes</u> , 1993, Rottem and Kahane (eds.), Plenum Press, New York, 20:1-28

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 08411-041US1	Application No. 10/509,926
Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))		Applicant Walter H. Hsu et al.	
		Filing Date October 1, 2004	Group Art Unit

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	57	Razin, "Peculiar properties of mycoplasmas: The smallest self-replicating prokaryotes," <u>FEMS Microbiol. Lett.</u> , 1992, 100:423-432
	58	Razin, "Molecular Biology and Genetics of Mycoplasmas (<i>Mollicutes</i>)," <u>Microbiol. Rev.</u> , 1985, 49(4):419-455
	59	Rogers et al., "Construction of the mycoplasma evolutionary tree from 5S rRNA sequence data," <u>Proc. Natl. Acad. Sci. USA</u> , 1985, 82:1160-1164
	60	Ross, "Mycoplasma Diseases," <u>Diseases of Swine</u> , 8 th edition, Straw et al. (eds.), Iowa State University Press, Ames, IA, pp.495-509
	61	Salathe and Bookman, "Mode of Ca^{2+} action on ciliary beat frequency in single ovine airway epithelial cells," <u>J. Physiol.</u> , 1999, 520.3:851-865
	62	Song and Steller, "Death by design: mechanism and control of apoptosis," <u>Trends Cell Biol.</u> , 1999, 9:M49-M52
	63	Tajima and Yagihashi, "Interaction of <i>Mycoplasma hyopneumoniae</i> with the Porcine Respiratory Epithelium as Observed by Electron Microscopy," <u>Infect. Immun.</u> , 1982, 37(3):1162-1169
	64	Tertyshnikova and Fein, "[Ca^{2+}] _i oscillations and [Ca^{2+}] _i waves in rat megakaryocytes," <u>Cell Calcium</u> , 1997, 21(5):331-344
	65	Thacker et al., "Evaluation of local and systemic immune responses induced by intramuscular injection of a <i>Mycoplasma hyopneumoniae</i> bacterin to pigs," <u>Am. J. Vet. Res.</u> , 2000, 61(11):1384-1389
	66	Thacker et al., " <i>Mycoplasma hyopneumoniae</i> Potentiation of Porcine Reproductive and Respiratory Syndrome Virus-Induced Pneumonia," <u>J. Clin. Microbiol.</u> , 1999, 37(3):620-627
	67	Thastrup et al., "Thapsigargin, a tumor promoter, discharges intracellular Ca^{2+} stores by specific inhibition of the endoplasmic reticulum Ca^{2+} -ATPase," <u>Proc. Natl. Acad. Sci. USA</u> , 1990, 87:2466-2470
	68	Tomura et al., " $\beta\gamma$ Subunits of Pertussis Toxin-sensitive G Proteins Mediate, A_1 Adenosine Receptor Agonist-induced Activation of Phospholipase C in Collaboration with Thyrotropin," <u>J. Biol. Chem.</u> , 1997, 272(37):23130-23137
	69	Trump and Berezesky, "The role of cytosolic Ca^{2+} in cell injury, necrosis and apoptosis," <u>Curr. Opin. Cell Biol.</u> , 1992, 4:227-232
	70	van den Pol et al., "Calcium Excitability and Oscillation in Suprachiasmatic Nucleus Neurons and Glia <i>in vitro</i> ," <u>J. Neurosci.</u> , 1992, 12(7):2648-2664
	71	Wilson et al., " <i>Pasteurella multocida</i> Toxin Activates the Inositol Triphosphate Signaling Pathway in <i>Xenopus</i> Oocytes via G_q -coupled Phospholipase C- $\beta 1$," <u>J. Biol. Chem.</u> , 1997, 272(2):1268-1275
	72	Woese et al., "What Are Mycoplasmas: The Relationship of Tempo and Mode in Bacterial Evolution," <u>J. Mol. Evol.</u> , 1985, 21:305-316
	73	Yamaya et al., "Differentiated structure and function of cultures from human tracheal epithelium," <u>Am. J. Physiol.</u> , 1992, 262:L713-L724
	74	Young et al., "A tissue culture system to study respiratory ciliary epithelial adherence of selected swine mycoplasmas," <u>Vet. Microbiol.</u> , 2000, 71:269-279
	75	Zhang et al., "Glycolipid Receptors for Attachment of <i>Mycoplasma hyopneumoniae</i> to Porcine Respiratory Ciliated Cells," <u>Infect. Immun.</u> , 1994, 62(10):4367-4373
	76	Zhang et al., "Identification and Characterization of a <i>Mycoplasma hyopneumoniae</i> Adhesin," <u>Infect. Immun.</u> , 1995, 63(3):1013-1019

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 08411-041US1	Application No. 10/509,926
Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))		Applicant Walter H. Hsu et al.	
		Filing Date October 1, 2004	Group Art Unit

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	77	Zhang et al., "Microtiter Plate Adherence Assay and Receptor Analogs for <i>Mycoplasma hyopneumoniae</i> ," <u>Infect. Immun.</u> , 1994, 62(5):1616-1622
	78	Zhuge and Hsu, "The Caffeine- and Ryanodine-Sensitive Ca ⁺⁺ Store in Porcine Myometrial Cells: Its Heterogeneity of All-or-None Ca ⁺⁺ Release," <u>J. Pharmacol. Exp. Ther.</u> , 1995, 275(3):1077-1083
	79	Zielinski and Ross, "Effect of growth in cell cultures and strain on virulence of <i>Mycoplasma hyopneumoniae</i> for swine," <u>Am. J. Vet. Res.</u> , 1990, 51(3):344-348
	80	Zielinski and Ross, "Adherence of <i>Mycoplasma hyopneumoniae</i> to porcine ciliated respiratory tract cells," <u>Am. J. Vet. Res.</u> , 1993, 54(8):1262-1269

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	